

Claims 1-3 rejected under 35 U.S.C. 103(a) as being unpatentable over Horev (US 2001/0019090A1). Horev discloses a combination of an aircraft and spraying apparatus which produces a steam spray of a salt solution for seeding clouds. The Examiner has stated that "Horev does not expressly teach a rotary piston high pressure pump". In contrast, Applicant's combination of a rotary piston high pressure pump and nozzles having impingement elements provides a more efficient system for spraying a widespread insecticide fog which sticks to the wings of insects and increases the mortality rate. The two systems differ in that Horev mounts the spray booms along the after edge of the wings. The wide expanse of the spray booms reduces the pressure along the entire length and the spray coming out near the outer ends is not at high pressure. Applicant's "T" shaped spray boom, in combination with the rotary piston high pressure pump and impingement nozzles, provides a much more efficient, widespread spray, sized to effectively accomplish the objective of creating a fog, two miles wide, which lasts for as long as 5 hours.

The Examiner has stated that "since Applicant has not disclosed the using rotary piston high pressure pump solves any stated problem or is for any specific purpose..." . Reference is made to Page 7, lines 1-10 which expressly discusses the requirements for a high pressure pump and not the standard, state of the art, inclined plate type of pump taught by Horev..

Applicant's wind driven spray system is the most efficient

spray system design ever used for the aerial application of mosquito control insecticides anywhere in the world. The scope of this system is strictly limited to, and will only work on flying insects, the specific design use is for mosquito control. Applicant has more experience in the art and science of mosquito control than any other entity in the world. Over the past 20 years , Applicant has treated some 30 million acres. So far, this Applicant has treated some one million acres with the new wind driven, hi-pressure spray system with good results and an 84% material rate reduction over recommended pesticide doseages due to a ten-fold plus increase in system efficiency.

Applicant has stated that the figures for performance stated by Horev are not realistic and not substantiated in the reference. Horev's claim for achieving a 5 micron droplet size at the operating pressures for the spray system of 1000 PSI is not documented. Applicant has provided droplet size documentation using one of only three existing wind tunnels in the world equipped with the Malvern Laser measuring device, specifically dedicated to analyzing spray droplet spectrums. At 7,500 PSI, the most efficient aerosol nozzle in existence produces a DV50 of only 7.75 microns. If this claim for a 5 micron droplet size is true, Horev should provide the data to substantiate the claim using the same protocol that was established in the instant application.

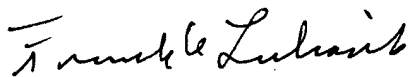
The instant invention is for the most efficient spray system designed for mosquito control. Applicant has

illustrated with appropriate documentation that two ingredients are necessary for such a claim to be valid. First, you have to use a BETE staged type impingement nozzle and second, it takes a minimum of 6,000 PSI to achieve maximum efficiency. Applicant has operated the system of the invention at pressures up to 8,000 PSI during prototype development and it has no problem at the 6,000 PSI level needed to achieve optimum performance.

The claim that the impingement nozzle is "known in the state of the art" is not valid. The impingement nozzle was designed and is used in the evaporator industry. Applicant is the first to employ the impingement nozzle in mosquito control.

The above information is believed sufficient to overcome the objections and rejection set forth in the August 13, 2004 Office Action by the Examiner. If additional explanation is needed, please contact the undersigned at (941) 637-1970.

In view of the foregoing, a notice of allowance for the claims in the application is respectfully requested.



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